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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/825,746	04/03/2001	Christopher Goh	10460-011-999	7301

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EXAMINER	
LEE, RIP A	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.	Applicant(s)
09/825,746	GOH ET AL.
Examiner	**Art Unit**
Rip A. Lee	1713

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,14 and 17-45* is/are pending in the application.

4a) Of the above claim(s) *1-9 and 17-45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-10,14 and 17-45* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
4) ☐ Interview Summary (PTO-413) Paper No(s) _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

This office action follows an after-final response filed on December 8, 2003. Applicants have amended claim 10 to exclude certain embodiments of substituents R^1 and R^2. Claim 15 was canceled. Only claims 10 and 14 remain pending.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 24 of U.S. Patent No. 6,534,664 to Guram *et al.* Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reason(s).

Present claim 10 is drawn to a metal ligand complex characterized by general formula $[R^1\text{-}E\text{-}X\text{-}N\text{-}R^2]_yM(L)_n$ where E is O, S, Se, or Te, X is any covalent bridging moiety provided it is not a benzylic bridge, and M is Hf.

Claim 24 of the prior art is drawn to a complex characterized by the formula $[R_a^3\text{-}X\text{-}(CH)Q^2\text{=}(CH)Q^1\text{-}N\text{-}R^1]_yM(L)_n$ wherein X is O or S and the metal is Hf or Zr. The fragment bridging heteroatoms X and N is not described in the same manner as that of general formula of the present claims (designated "X"), but it is obvious that said fragment meets the limitations of the present claims because it is not a benzylic bridge. That the metal is Hf is especially obvious since claim 24 recites only two possible embodiments: Hf or Zr.

3. Claim 14 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2 and 11 of U.S. Patent No. 6,534,664 to Guram *et al.* Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reason(s).

Present claim 14 is drawn to a compound (XIX) having general formula $[R^1\text{-}E\text{-}(CH)R^4\text{=}(CH)R^3\text{-}N\text{-}R^2]_yM(L)_n$ in which the metal is Hf. Claim 2 of Guram *et al.* recites a compound having essentially the same ligand sphere about the metal. The difference is the labeling scheme of substituents, however, it is obvious from reading the definitions of these labels that the claims recite essentially the same compounds. That the metal center is obvious in view of claim 2 of the prior art which shows that the metal may be Hf.

Compound (XX) of present claim 14 is also obvious in view of compound (X) shown in claim 11 of the prior art. The difference lies only in nomenclature, however, it is obvious from reading the definitions of substituent labels that the claims are drawn to essentially the same compounds. That the metal center is Hf is obvious since claim 1 of Guram *et al.* states that M is a group 4 metal, and this includes Hf.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 10 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. U.S. Patent No. 6,534,664 to Guram *et al.*

As discussed in paragraphs 2 and 3 (*supra*), Guram *et al.* teaches compounds of the present claims. Claim 24 of the prior art claims specifically transition metal complexes containing Hf.

6. Claims 10 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,521,793 to Guram *et al.*

The prior art of Guram *et al.* teaches transition metal compounds (VI) and (X) which are essentially the same as those described in present claims 10 and 14 (see columns 2 and 12 and corresponding text for definitions of labeling). According to the inventors, the metal is a group 4 metal, of which hafnium is a member (col. 2, line 62).

Both applied references have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-199592 to Matsui *et al.* for the same reasons set forth in previous office actions (Papers No. 9 and 11).

Response to Arguments

10. The rejection of claims in view of JP 11-199592 to Matsui *et al.* has been overcome by amendment. Present claims have been amended to exclude heteroatom bound substituents of the N^O complexes shown in the prior art.

11. Applicants traverse the rejection of claims 10 and 14 in view of Murray. Applicants' arguments filed have been considered fully, but they are not persuasive. It is maintained that a Hf compound having structure (XXXV) is obvious over the prior art because the patent teaches group 3-13 elements, and this would include the group 4 metal hafnium. Use of group 4 metals in general are especially obvious in view of the fact that Zr is exemplified.

Applicants refer to data in Tables 2 and 3 in their discussion of purported unexpected results. Murray's Zr complex is shown in Table 3, entry 5, and the corresponding Hf complex is shown in Table 2, entry 5. One observes greater activity for the Hf complex, but this is only by a factor of about 2. The amount of 1-octene incorporation for the Hf complex is also greater by a factor of 2. Applicants have furnished adequately a consecutive back-to-back test comparison with the closest prior art.[†] That these data constitute "unexpected results" is not entirely obvious. Since catalyst activity is determined empirically, one can not expect or predict activity with certainty. That said, one could argue that *any* reported activity is "unexpected." Unless there is reason to believe that a two-fold increase in activity is truly surprising and significant, the data are not probative of nonbobviousness.

[†] *In re Johnson*, 447 F.2d 1456, 1461, 223 USPQ 1260, 1263-1264 (Fed. Cir. 1984).

Furthermore, it is well established that evidence presented to rebut a *prima facie* case of obviousness must be commensurate in scope with the claims to which it pertains; evidence offered by affidavit that is considerably narrower in scope than the claimed subject matter is not sufficient to rebut a *prima facie* case.[‡]

Applicants have furnished a single experiment showing marginal increases in activity and in comonomer incorporation between a Hf complex and its correpsonding Zr complex. However, this is not representative of the degree of protection sought. First, the results shown reflect a single set of reaction conditions. There is no showing of parallel runs under different reaction conditions (*i.e.*, amount of catalyst, temperature, C_2H_4 pressure - all known to affect polymerization behavior) and using different comonomers. More importantly, whereas the specification shows data regarding compounds of general formula (XXXV), information regarding "unexpected" polymerization behavior resulting from use of the myriad of claimed compounds falling under general formulae (XIX), (XX), (XXI), (XXX), (XXXI), (XXXII), (XXXIII), and (XXXIV) is conspicuously absent.

In view of the discussion above, the rejection of record has not been withdrawn.

[‡] *In re Dill*, 202 USPQ 805 (CCPA 1979); *In re Graselli*, 713 F.2d 73, 218 USPQ 769 (Fed. Cir. 1983).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the exarniner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-1104.

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January 14, 2004

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